

What is claimed is:

1 1. A charge characteristic compensating circuit for a liquid crystal
2 display panel including a plurality of liquid crystal cells arranged at each
3 intersection between data lines and gate lines to control a light
4 transmissivity in response to data signals from the data lines, and a
5 plurality of switching devices for switching the data signals to be applied
6 from the data lines to the liquid crystal cells in response to signals on the
7 gate lines, the circuit comprising:

8 a voltage supply for generating a gate voltage required for the gate
9 lines;

10 a gate line driver for applying the gate voltage from the voltage supply
11 to the gate lines to drive the gate lines; and

12 a current controller for responding to a change in the ambient
13 temperature to change an amount of current of the gate voltage to be
14 applied from the voltage supply to the gate line driver.

15 2. The charge characteristic compensating circuit as claimed in claim
16 1, wherein the current controller includes a resistor and a thermistor
17 connected, in parallel, between the voltage supply and the gate line driver.

18 3. The charge characteristic compensating circuit as claimed in claim
19 1, wherein the current controller includes a resistor and a thermistor
20 connected, in series, between the voltage supply and the gate line driver.

1 4. The charge characteristic compensating circuit as claimed in claim
2 2, wherein the thermistor is a positive temperature coefficient thermistor.

1 5. The charge characteristic compensating circuit as claimed in claim
2 3, wherein the thermistor is a positive temperature coefficient thermistor.

1 6. A charge characteristic compensating circuit for a liquid crystal
2 display panel including a plurality of liquid crystal cells arranged at each
3 intersection between data lines and gate lines to control a light
4 transmissivity in response to data signals from the data lines, and a
5 plurality of switching devices for switching the data signals to be applied
6 from the data lines to the liquid crystal cells in response to signals on the
7 gate lines, the circuit, comprising:

8 a voltage supply for generating a gate voltage required for the gate
9 lines;

10 a gate line driver for applying the gate voltage from the voltage supply
11 to the gate lines to drive the gate lines; and

12 a current controller for responding to a change in the ambient
13 temperature to change a voltage level of the gate voltage to be applied from
14 the voltage supply to the gate line driver.

1 7. The charge characteristic compensating circuit as claimed in claim
2 5, wherein the current controller includes a resistive voltage divider
3 connected between the voltage supply and the gate line driver and composed
4 of a resistor and a thermistor.

1 8. The charge characteristic compensating circuit as claimed in claim
2 6, wherein the thermistor is a negative temperature coefficient thermistor.

1 9. A charge characteristic compensating circuit for a liquid crystal
2 display panel (LCD), comprising:

3 a voltage converter generating a high level gate voltage;

4 a gate line controller receiving said high level gate voltage from said
5 voltage converter and supplying a controlling signal that varies as an
6 ambient temperature varies; and

7 a gate line driver receiving said controlling signal from said gate line
8 controller and driving a gate line.

9 10. The charge characteristic compensating circuit of claim 9, wherein
10 said gate line controller is a current controller such that said controlling
11 signal received by said gate line driver includes an electrical current, an
12 amount of which varies as said ambient temperature varies.

1 11. The charge characteristic compensating circuit of claim 10,
2 wherein said current controller decreases said amount of current as said
3 ambient temperature increases.

1 12. The charge characteristic compensating circuit of claim 11,
2 wherein said current controller includes a thermistor.

1 13. The charge characteristic compensating circuit of claim 12,
2 wherein said thermistor is a positive temperature coefficient thermistor.

1 14. The charge characteristic compensating circuit of claim 13,
2 wherein said current controller further includes a resistor such that said
3 resistor is in one of a parallel connection or a serial connection with said
4 thermistor.

1 15. The charge characteristic compensating circuit of claim 9, wherein
2 said gate line controller is a voltage divider such that said controlling signal
3 received by said gate line driver includes a voltage, a level of which varies as
4 said ambient temperature varies.

1 16. The charge characteristic compensating circuit of claim 15,
2 wherein said voltage divider decreases said voltage as said ambient
3 temperature increases.

1 17. The charge characteristic compensating circuit of claim 16,
2 wherein said current controller includes a thermistor.

1 18. The charge characteristic compensating circuit of claim 17,
2 wherein said thermistor is a negative temperature coefficient thermistor.

1 19. The charge characteristic compensating circuit of claim 18,
2 wherein said voltage divider further includes a resistor such that said

resistor is connected between said voltage converter and an input to said said gate line driver and said negative temperature coefficient thermistor is connected between ground and said input to said gate line driver.

20. The charge characteristic compensating circuit of claim 18, wherein said voltage divider further includes a positive temperature coefficient thermistor such that said positive temperature coefficient thermistor is connected between said voltage converter and an input to said said gate line driver and said negative temperature coefficient thermistor is connected between ground and said input to said gate line driver.

21. The charge characteristic compensating circuit of claim 16, wherein said voltage divider includes a positive temperature coefficient thermistor such that said positive temperature coefficient thermistor is connected between said voltage converter and an input to said said gate line driver and a resistor such that said resistor is connected between ground and said input to said gate line driver.

22. A method to compensate for a charge characteristic of a liquid crystal display panel (LCD), comprising:

supplying a controlling signal that varies as an ambient temperature varies; and

driving a gate line according to said controlling signal.

1 23. The method of claim 22 wherein said controlling signal includes
2 an electrical current, an amount of which varies as said ambient
3 temperature varies.

1 24. The method of claim 23, wherein said amount of current is
2 decreased as said ambient temperature increases.

1 25. The method of claim 22, wherein said controlling signal includes
2 includes a voltage, a level of which varies as said ambient temperature
3 varies.

1 26. The method of claim 25, said voltage is decreased as said ambient
2 temperature increases.